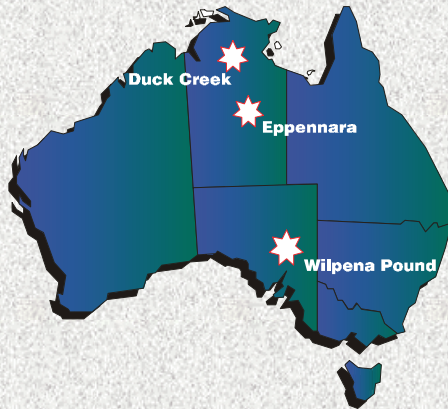


Australia: Country Overview

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Australia's Renewable Energy Program

Australia's renewable energy program has a long and active history and is gaining strength all the time. Renewable energy is commonly used for powering remote ranches and communities in the Australian Outback and is actively promoted and supported by the major utilities and state and federal ministries of energy. Australia's renewable energy industry includes award-winning manufacturers of most major renewable energy technologies including wind turbines, solar panels and concentrators, power conditioning equipment, batteries, fuel cells, and biomass. Major universities around Australia conduct renewable energy research in cooperation with industry through ACRE, the Australian Cooperative Research Centre for Renewable Energy.

Wilpena Pound, South Australia

Commissioned in July of 1998 for the ETSA Corporation of South Australia, the Wilpena Pound hybrid system incorporates a 100-kW Solar Array, 100, 150, and 300-kVA generators, a 400-kWh battery bank, and a 125-kVA Static Power Pack from Advanced Energy Systems. The system has a peak capacity of over 500 kW and is expected to reduce emissions of CO₂ by approximately 300 tonnes per year. The system cost AU\$2M and was installed in favor of extending the utility grid. The system was designed, manufactured, and commissioned by Advanced Energy Systems and powers the Wilpena Pound Tourist Resort and accommodations for the park personnel.



The Wilpena Pound solar/diesel hybrid system

Eppennara, Northern Territory

Powering a village, pastoral station, and school; the Eppennara power system was commissioned in 1994 and incorporates a solar array, AES inverter, two diesel generators and a battery bank. The system operates under a "Build/Operate/Transfer" contract between the Power and Water Authority of the Northern Territory and Advanced Energy Systems. With a current peak capacity of 130 kW, it is slated to be upgraded with an 80-kW wind turbine by the end of 1998. Too remote to ever be considered for grid extension, the renewable energy hybrid system was chosen over stand-alone diesel generators.



Eppennara power station

Duck Creek, Northern Territory

Powering a village and school, the Jilkminngan (Duck Creek) power system was commissioned in 1992 and incorporates an 18-kW solar array, 60-kVA AES inverter, two diesel generators (40- and 80-kVA) and a 100-kWh battery bank. The system is owned by the Power and Water Authority of the Northern Territory. With a current peak capacity of 144 kW, the system is also used for testing different solar technologies. As with most AES systems, the Duck Creek power station incorporates a remote dial-in monitoring and control package which is used to access and analyze solar data via a computer link.



Duck Creek: solar array and interior of control cabinet